OCCASIONAL PAPERS

Museum of Texas Tech University

Number 229

01 December 2003

REVISED CHECKLIST OF NORTH AMERICAN MAMMALS NORTH OF MEXICO, 2003

ROBERT J. BAKER, LISA C. BRADLEY, ROBERT D. BRADLEY, JERRY W. DRAGOO, MARK D. ENGSTROM, ROBERT S. HOFFMANN, CHERI A. JONES, FIONA REID, DALE W. RICE, AND CLYDE JONES

Since the first checklist of scientific and vernacular names of species of North American mammals was published by Jones et al. (1973), the checklist has been updated periodically (Jones et al., 1975; 1979; 1982; 1986; 1992; 1997). The publication of this revision marks the 30th anniversary of the checklist. From the beginning, it was hoped that the checklist would provide a useful reference for many scientific endeavors in general, both in the field and in the laboratory, and that it would be useful to students in particular. Since the publication six years ago of the most recent revision of the checklist (Jones et al.,

1997), demand for copies essentially has eliminated the original supply. In addition, some significant taxonomic changes have been published in the primary literature on mammals since that time. As in previous revisions of the checklist, we have attempted to include all species of Recent mammals known to occur in North America (and its adjacent waters) to the north of Mexico and in the recognized published literature through 2003. The checklist represents a general consensus among the authors, but does not necessarily imply complete agreement among them on all issues.

THIRTY YEARS OF CHANGE

After 30 years and 8 checklists, it seemed appropriate to review and summarize the changes that have occurred in the recognized fauna of North America north of Mexico since the first checklist was published in 1973. Table 1 illustrates the number of orders, families, genera, and species recognized in each revision of the checklist in the Occasional Papers (O.P.) series. From 1973 to 2003, there has been an increase at every taxonomic level (orders, 11 to 12; families, 41

to 46; genera, 141 to 166; species, 403 to 474). Many of the changes in the species classification were made to ensure monophyly of taxa. The greatest percentage change has been in the number of genera (17.7%). The increase in the number of species (71, or 15%) reflects taxonomic changes (46), distributional changes (5), the addition of introduced, non-native mammals to the list (19), and the recognition of humans as a component of the native fauna (1).

Table 1. Changes in the number of taxa for North American mammals north of Mexico as recorded on the checklist published in the Occasional Papers of the Museum, Texas Tech University.

Year (O.P. #)	Orders	Families	Genera	Species
1973 (12)	11	41	141	403
1975 (28)	11	41	141	404
1979 (62)	11	42	142	412
1982 (80)	11	42	141	417
1986 (107)	10	43	148	425
1992 (146)	12	44	156	447
1997 (173)	12	45	164	462
2003 (229)	12	46	166	474

During the last 30 years, the science of mammalogy has changed dramatically as rapid advancements in laboratory techniques, including the study of individuals at the molecular level, have been developed and refined. Technological advances undoubtedly will continue to influence our understanding of the systematic relationships of species and will be reflected in continuing changes to the taxonomy and classification of mammals. Although changes in taxonomy require the student to adapt constantly to a new list of names and a new understanding of species relationships, it clearly should be the goal of all mammalogists to achieve the most accurate classification possible.

Recent advances in molecular biology have provided resolution to questions related to species identification, reproductive isolation and hybridization with proof of the presence/absence of F1 and backcrossed individuals within local populations. This new level of resolution, in combination with the application of the Genetic Species Concept (Avise and Walker, 1999; Bradley and Baker, 2001; Dobzhansky, 1950; Mayden, 1997; Mayr, 1969; Simpson, 1943), suggests that there are many species of mammals that are currently unrecognized (Bradley and Baker, 2001) on lists such as those provided herein and in Wilson and Reeder (1993). Some estimates are that there will be an increase of

25% (Baker, 2002) in number of species in the class Mammalia, but this may indeed be an underestimation. Our understanding of the systematics of mammals is probably the greatest in North America north of Mexico (the focus of this checklist) and it remains open to speculation how many additional species will ultimately be recognized within the North American faunal groups. An example of a cryptic species that was defined by gene sequence data is Notiosorex cockrumi (Baker et al., 2003). The more common situation will probably involve examples where subspecific differences have been described and the application of molecular data indicates the presence of more than one species. Examples covered on this checklist include Neotoma macrotis (Matocq, 2002), Neotoma leucodon (Edwards et al., 2001), Canis lycaon (Wilson et al., 2000; Wilson et al., 2003) and within the Neotoma lepida complex (Patton and Alvarez-Castañeda, in press). Undoubtedly, there will be many other examples within the shrews, rodents and possibly other taxa.

It might be predicted that vagile species such as bats would be the least likely to have well defined phylogroups and unrecognized biological species. At a recent meeting of the North American Symposium on Bat Research (8-11 October 2003 in Lincoln, NE) two papers presented on bat species with a wide geographic range suggest geographically distinct phylogroups. These were studies on Myotis lucifugus presented by Tanya A. Dewey of the University of Michigan and on Antrozous pallidus presented by Sarah E. Weyandt of Oklahoma State University. At this time it is not possible to understand how many if any of those phylogroups represent currently unrecognized species but it is probable that some do. The significant observation here is that the work of Dewey and Weyandt document that potentially vagile species of bats are divided into well-defined phylogroups based on gene sequence data. Further, these phylogroups need to be interrogated relative to specific status to better understand the biodiversity of the mammals north of Mexico.

TAXONOMIC DIVERSITY

Orders.—Although the overall number of orders (11) remained stable from 1973 to 1982, changes to the recognized orders occurred in 1979, when Mysticeti and Odontoceti were recognized as orders (eliminating the order Cetacea), and Pinnipedia was reduced to a suborder of Carnivora. In 1986, the order Cetacea was restored, and Mysticeti and Odontoceti were reduced to suborders, thus reducing the overall count of orders to ten. In 1992, Primates and Perissodactyla were added to the checklist. The recognized orders have remained unchanged since that time.

Families.-In 1979, the walrus was recognized as belonging to a distinct family, Odobenidae. In 1982, the number of families did not change, but Kogiidae was reduced from familial status and Phocoenidae was recognized as a family separate from Delphinidae. In 1986, Kogiidae was restored as a family, bringing the total count to 43. In 1992, the families Cercopithecidae and Equidae were added to reflect the presence of the introduced rhesus monkey and the feral horse and ass in the North American fauna. Also in 1992, Cricetidae was abandoned as a family, and all New World rats, mice, and voles were recognized as belonging to the family Muridae. In 1997, the skunks were grouped as the family Mephitidae. On the current checklist, the family Hominidae was added, bringing the total number of families to 46.

Genera.—In 1975, the number of genera was unchanged from 1973, but Idionycteris was recognized as a distinct genus, and the bobcat and lynx were returned to the genus Felis, eliminating the genus Lynx. The addition of the genus Feresa brought the number of recognized genera to 142 in 1979. In 1982, Arborimus was recognized as distinct at the generic level, Microsorex was reduced from generic rank, and Tamias was recognized as the generic name for all chipmunks, eliminating the genus Eutamias. On the subsequent checklist, Arborimus was not recognized as a distinct genus, but eight new genera appeared on the checklist as the result of taxonomic changes (Brachylagus, Chaetodipus, Pusa, Pagophilus, Histriophoca), distributional changes (Lagenodelphis),

and the addition of exotic species (Boselaphus, Antilope). Eight additional genera were recognized in 1992, bringing the number of recognized genera to 156. Of the eight new genera, three were added as the result of taxonomic changes (Nyctinomops, Lynx, Panthera), and five were added to reflect the presence of introduced mammals (Macaca, Equus, Oryx, Hemitragus, Capra). In 1997, taxonomic changes added six genera to the checklist (Arborimus, Puma, Leopardus, Herpailurus, Axis, Dama), and the discovery of Molossus molossus in Florida and reports of Peponocephala electra in Florida and Maryland added two genera. On the current checklist, the genus Alopex was deleted and the genera Homo, Eubalaena, and Neotamias were added, bringing the total recognized genera to 166.

Species.—Total species increased by one from 1973 to 1975; 3 species were added and 2 were deleted from the checklist as the result of taxonomic changes. In 1979, 14 species were added to the checklist and 6 were removed, bringing the total species count to 412. Thirteen additions and eight deletions to the 1982 checklist brought the species count to 417. All of the changes in 1982 were the result of taxonomic revisions, with the exception of the addition of a cetacean based on a new record for North America. In 1986, taxonomic revisions added 12 names to the list and deleted 9; one cetacean was added based on a new record; and 4 introduced species were added. The total species count rose dramatically from 1986 to 1992 (from 425 to 447); taxonomic revisions accounted for 14 additions and 3 deletions, and 11 introduced or feral species were added to the list. The 1997 checklist included 4 additional introduced species and 2 new species (one bat and one cetacean) based on recent discoveries in North America, and taxonomic revisions added 15 names and deleted 6, bringing the checklist total to 462 species. On the current checklist, 15 additions and 4 deletions were reported as the result of taxonomic changes, and the addition of modern man to the list added one species, bringing the total to 474 species.

DEPARTURES FROM JONES ET AL. (1997) AND OTHER NOTES

The changes that have been made in the scientific names from those listed in Jones et al. (1997) are discussed below. Some other pertinent comments are included that might help to explain the current list of recognized species. Readers should note that although Wilson and Ruff (1999) was a more recent publication than the last checklist (Jones et al., 1997). Wilson and Ruff (1999) relied heavily on Wilson and Reeder (1993) as the basis for their book. Thus, there are numerous discrepancies between Wilson and Ruff (1999) and the current checklist. For clarification, we have noted these discrepancies throughout the following notes. We referred primarily to Rice (1998) for marine mammal designations. With a few exceptions, common names are adapted from Wilson and Cole (2000) for terrestrial mammals and Rice (1998) for marine mammals.

INSECTIVORES

Soricidae.—The taxonomy of the Sorex cinereus group has a long and confusing history. Most recently, Demboski and Cook (2003) attempted to resolve the phylogenetic relationships among 8 members of the group using molecular data analyses. Demboski and Cook (2003) based their study of the group on the morphological phylogeny presented by van Zyll de Jong (1991). Although the results of Demboski and Cook (2003) generally supported the phylogeny of van Zyll de Jong (1991), we note that the taxonomy of the entire Sorex cinereus group remains unresolved, and additional clarification is needed on the composition and nomenclature of this group.

Of particular concern are three species of the Sorex cinereus group – haydeni, fontinalis, and jacksoni. Brunet et al. (2002) contended that Sorex haydeni does not warrant specific status. Demboski and Cook (2003), however, refuted this change. We have chosen to retain specific status for haydeni at this time. Likewise, we continue to recognize fontinalis as a species based on the electrophoretic analyses presented by George (1988). Van Zyll de Jong (1999) and Demboski and Cook (2003), however, relegated Sorex fontinalis to subspecific status. In 1997 (Jones et al., 1997), we accepted the results of the karyological analyses of Rausch and Rausch (1995), which re-

duced *Sorex jacksoni* to subspecific status. Both van Zyll de Jong (1999) and Demboski and Cook (2003), however, continued to recognize *jacksoni* as a species. Based on the data of Demboski and Cook (2003), we have chosen once again to recognize *S. jacksoni* as a species on the current checklist.

We follow Alexander (1996) in elevating *Sorex monticolus neomexicanus* to a distinct species. Note that George (1999), however, retained *neomexicanus* as a subspecies. We follow Stewart et al. (2002) in elevating *Sorex arcticus maritimensis* to specific status.

Notiosorex cockrumi, Cockrum's desert shrew, has been added to the checklist. Baker et al. (2003) described this new species based on nuclear and mitochondrial sequence data.

In his account of *Sorex palustris*, Harris (1999) recognized *alaskanus* as a subspecies of *palustris*. Based on the works of Carraway (1995), George (1988), and Hutterer (1993), however, we continue to recognize *Sorex alaskanus* as a species.

We continue to recognize Sorex pribilofensis as the correct name for the Pribilof Island Shrew, following van Zyll de Jong (1991), Rausch and Rausch (1997), and Demboski and Cook (2003). Note that Hoffmann (1999), however, referred to the subspecies S. hydrodromus pribilofensis.

Wilson and Ruff (1999) failed to provide an account for *Sorex yukonicus*. This species was described by Dokuchaev (1997), and we continue to recognize the species.

BATS

Phyllostomidae.—Several unconfirmed reports of new bat records have come from the Florida Keys region, including the possible occurrence of Artibeus jamaicensis, Phyllonycteris poeyi, and Erophylla sezekorni. None of these reports have been substantiated through any scientific outlets, however, and we refrain from adding any of these species to the current checklist.

Vespertilionidae.—As summarized by Piaggio et al. (2002), the systematic relationship between Myotis lucifugus and Myotis occultus has been the subject of multiple studies, with often conflicting results and conclusions. Based on this most recent study, utilizing mitochondrial gene sequencing analyses, Piaggio et al. (2002) concluded that Myotis occultus represents an evolutionarily distinct monophyletic lineage and warrants specific status. We have accepted that conclusion and included Myotis occultus as a species on the current checklist.

Shump (1999) did not recognize Lasiurus blossevillii as a valid species, and continued to recognize blossevillii as a South American subspecies of Lasiurus borealis. We continue, however, as do most authors, to accept the results of Baker et al. (1988) and recognize Lasiurus blossevillii as a valid North American species.

Similarly, Kurta (1999) did not recognize the specific status of *Lasiurus xanthinus*, and placed it as a subspecies of *Lasiurus ega*. As on the 1992 checklist (Jones et al., 1992), however, we continue to recognize *Lasiurus xanthinus* as specifically distinct based on chromosomal and electrophoretic data (Baker et al., 1988).

Several authors have argued for the recognition of Corynorhinus as a separate genus for the New World big-eared bats and the restriction of Plecotus to the Old World forms of this group (Frost and Timm,1992; Tumlison and Douglas, 1992). In the last revision of this checklist (Jones et al., 1997), we retained the name Plecotus, but noted that the problem warranted additional study. Recent works by Bogdanowicz et al. (1998) and Hoofer and Van Den Bussche (2001) have provided further support for the monophyly of the Old World genus Plecotus and the New World genus Corynorhinus. Therefore, we recognize Corynorhinus as the genus for the two North American species.

Molossidae.--Although Wilson and Ruff (1999) did not include an account for Molossus molossus, we continue to list this species based on its discovery in the Florida Keys (Frank, 1997).

LAGOMORPHS

Leporidae.—We follow Ruedas (1998) who, based on a morphological analysis of 26 characters, elevated Sylvilagus robustus to specific status. Ruedas (1998) also suggested that S. f. holzneri and S. f. cognatus may warrant specific status, but he refrained from naming them as such. We continue to recognize holzneri and cognatus as subspecies pending further studies of this group.

Halanych et al. (1999) questioned the validity of Lepus othus, given its minimal genetic distinctness from Lepus arcticus. As Halanych et al. (1999) emphasized, however, further studies are necessary to resolve the taxonomic status of the arctic hare group. Thus, we have retained Lepus othus on the current checklist.

RODENTS

Sciuridae.—Jameson (1999) concluded, based on the evolutionary relationships of chipmunk ectoparasites, that the subgenera Neotamias, Tamias, and Eutamias should be elevated to three separate genera. Recently, this conclusion was supported by Piaggio and Spicer (2001) based on their analyses of cytochrome b sequence data. We have revised the current checklist to reflect this change. Of the North American chipmunks, only the eastern chipmunk, Tamias striatus, is assigned to the genus Tamias. All other North American chipmunks are assigned to the genus Neotamias.

Arbogast (1999) suggested, based on cytochrome b analyses, that Glaucomys sabrinus oregonensis may warrant specific status. Further investigation by Arbogast, however, did not find fixed allozymic differences between oregonensis and the remaining conspecific populations of G sabrinus (B. Arbogast, pers. comm.). Although it may yet be determined that G s. oregonensis is a cryptic species, the evidence does not warrant elevation to specific status at this time.

Arbogast et al. (2001) also investigated the taxonomy of *Tamiasciurus*, and found little differences between the 3 recognized species (*mearnsi*, *douglasii*, and hudsonicus) based either on mitochondrial DNA (mtDNA) or allozyme analyses. Arbogast et al. (2001) proposed that the recognition of a single, phenotypically variable species, T. hudsonicus, comprised of 3 subspecies (hudsonicus, douglasii, and mogollonensis), may best reflect the currently available genetic and morphologic data. Pending further supportive data, however, we have chosen not to accept this reorganization of Tamiasciurus.

Geomyidae.—We follow Jolley et al. (2000) in recognizing Geomys streckeri as a species.

Heteromyidae.—As in 1997 (Jones et al., 1997), we continue to accept the conclusion of Lee et al. (1996) that Chaetodipus eremicus warrants specific status. Note that Price (1999), however, continues to recognize Chaetodipus eremicus as a subspecies of C. penicillatus.

We follow the recommendation of Riddle et al. (2000a) that the western populations of *Chaetodipus baileyi* be recognized as a distinct species, *C. rudinoris*. We also follow the conclusion of Riddle et al. (2000b) that *Peromyscus fraterculus* (previously assigned as a subspecies of *P. eremicus*) warrants specific status.

We continue to relegate *elephantinus* to subspecific status under *Dipodomys venustus* based on the genic and bacular data presented by Best et al. (1996). More recently, Best (1999) recognized *D. elephantinus* as a species, but readers should be aware that this account was written at the request of Don Wilson and Sue Ruff, and reflects the taxonomy proposed by Wilson and Reeder (1993); it does not reflect the taxonomy supported by the most recent available data (pers. comm., Troy Best).

Muridae.—Hogan et al. (1997) suggested that some of the currently recognized subspecies of Peromyscus maniculatus may warrant specific status. We agree that this group needs further study and clarification, but no changes are warranted at this time.

Edwards et al. (2001) examined the molecular phylogenetics of the *Neotoma albigula* species group, and concluded that *Neotoma albigula* is comprised of two cryptic species. The eastern form was designated as *Neotoma leucodon*, the Eastern white-throated

woodrat. Matocq (2002) elevated *Neotoma macrotis*, the large-eared woodrat, to a species separate from *N. fuscipes* based on morphological and molecular analyses.

The taxonomy of the *Neotoma lepida* group is complex, and recent research indicates that *lepida* actually may be comprised of at least two species (Patton and Alvarez-Castañeda, in press). Those authors also suggested that the western form of *lepida* should probably be given specific status, although they hesitated to make a formal designation pending further research. Further, it is not clear if *devia* represents a valid species. Given the uncertainty of the taxonomy of the *lepida* group, we have not made any changes to the current checklist until further data are available.

Following Frey (1999) and Frey and Moore (1990), we recognize the Mogollon vole, *Microtus mogollonensis*, as a species distinct from *M. mexicanus*. Batzli (1999) recognized the brown lemming by the specific name *Lemmus sibiricus*, but acknowledged that *trimucronatus* may be the correct name for the species. We recognize the name *trimucronatus* following Jarrell and Fredga (1993). We continue to follow the taxonomy presented on the last checklist (Jones et al., 1997) for the *Dicrostonyx* group. See Engstrom (1999), however, for an alternative view.

CARNIVORES

Canidae.—Recent molecular evidence (Wilson et al., 2000; Wilson et al., 2003) provided support for the recognition of the eastern Canadian wolf as a species distinct from the gray wolf. The species Canis lycaon is therefore added to the checklist.

At this time we continue to recognize the arid land foxes as distinct species, *Vulpes velox* and *V. macrotis*, following Mercure et al. (1993). While noting that the status of this species is questionable, Thacker and Flinders (1999) chose to follow Wilson and Reeder (1993) in recognizing one species, *Vulpes velox*. Readers are referred to Dragoo and Wayne (2003) for a review of the systematics of the species.

We follow Geffen et al. (1992) and Mercure et al. (1993) in recognizing the arctic fox as *Vulpes lagopus*. Karyology, DNA hybridization, and allozyme

electrophoretic data all indicate a close relationship of the arctic fox, kit fox, and swift fox and conflicts with the previous assignment of generic distinctness for the arctic fox.

Phocidae.—We have chosen to follow Rice (1998) in the taxonomic classification of the species in this group. Note that the various authors of Wilson and Ruff (1999), however, differed in their classification.

Mephitidae.—Based on external and cranial morphology and molecular data, Dragoo et al. (2003) recently revised the taxonomy of the genus Conepatus. Two species, Conepatus leuconotus and C. mesoleucus, and their subspecies were determined to represent only a single species, C. leuconotus.

Felidae.—We follow Wozencraft (1993) in recognizing the correct spelling for the scientific name of the jaguarundi as Herpailurus yaguarondi rather than yagouaroundi.

CETACEANS

Balaenopteridae.—Based on Dizon et al. (1996), we chose in 1997 (Jones et al., 1997) to recognize Balaenoptera brydei and B. edeni as two distinct species, with the smaller B. edeni being restricted to the coastal waters of the eastern Indian Ocean and the western Pacific Ocean (Jones et al., 1997). Additional studies have supported that arrangement (Wada and Numachi, 1991; Dizon et al., 1998), and we continue to recognize B. brydei on the current checklist. Rice (1999), however, retained the more conservative arrangement of B. edeni as a single species, although he acknowledged that questions remain regarding the taxonomy of B. brydei/edeni. See Rice (1998) for a more thorough discussion.

Balaenidae.—The taxonomy of this family remains in dispute. Most authors recognize two genera, Balaena and Eubalaena, but others include both species in Balaena (see Clapham, 1999). We have chosen to recognize both genera. Further, the number of species within the genus Eubalaena is a matter of controversy. The most common taxonomic arrangement recognizes two species: Eubalaena glacialis, the north-

ern right whale, and E. australis, the southern right whale. Rosenbaum et al. (2000), however, found that the North Atlantic, North Pacific, and Southern Hemisphere populations were each diagnosable by the presence of unique nucleotides at three or four base-pair positions in the control region of the mtDNA. By invoking an extreme version of the phylogenetic species concept, they suggested that each population should be ranked as a full species: E. glacialis, E. japonica, and E. australis, respectively. However, these nucleotide substitutions have no discernable phenotypic expression, and are probably selectively neutral; they cannot be construed as evidence of either prezygotic or postzygotic isolating mechanisms. No other consistent differences have been found between the three populations, so under the biological species concept all three must be regarded as members of a single biological species, Eubalaena glacialis.

Delphinidae.—Wilson and Ruff (1999) did not include an account for Peponocephala electra. This species was added to the checklist in 1997 based on reports of the species from Texas and Maryland (Barron and Jefferson, 1993).

LeDuc et al. (1999) proposed a revised classification of the Delphinidae based on a molecular systematics analysis. Under their system, Lagenorhynchus acutus becomes Leucopleurus acutus, and Lagenorhynchus obliquidens becomes Sagmatias obliquidens. However, we follow most cetologists (Perrin et al., 2002) in holding these changes in abeyance, pending further studies.

Ziphiidae.—Dalebout et al. (2002) described a new species of beaked whale, Mesoplodon perrini, based on molecular studies of five animals stranded on the coast of California. All of the North American specimens previously identified as M. hectori are now recognized as M. perrini. M. hectori is removed from the checklist because, as it is now understood, M. hectori occurs only in the southern hemisphere.

Kogiidae.—Wilson and Ruff (1999) did not recognize the family Kogiidae for the pygmy sperm whales. We follow Rice (1998) in continuing to recognize this family.

ARTIODACTYLS

Suidae.—The genetic history of the stocks that gave rise to Sus scrofa populations in North America represent two different histories. Wild boar have been introduced that have not been through any artificial selection process and probably are indistinguishable from native populations in Europe and Asia. Alternatively, there have been many releases of artificially selected breeds of pigs that have established feral populations. What is present in free-ranging herds is an interbreeding combination of these stocks in various degrees of genetic recombination. In most areas, feral pigs are primarily derivatives of domestic stocks.

Cervidae.—We have accepted the recommendation of Geist (1998), further supported by Randi et al. (2001), that the wapiti of North America and eastern Asia be recognized as specifically distinct (Cervus canadensis) from the red deer of western Eurasia (Cervus elaphus).

Bovidae.—Although he noted the controversy surrounding the generic placement of the American bison, Shaw (1999) continued to classify the species in the genus Bison. Shaw (1999) provided no supporting data for this arrangement, however, whereas several studies have supported the placement of Bison in synonomy with Bos (see Jones et al., 1997). Thus, we continue to recognize the American bison as Bos bison.

CHECKLIST

Although several authors, including Wilson and Ruff (1999), have adopted a different sequence for the phylogeny of mammals, we have chosen to present this checklist in the same phylogenetic sequence as on the previous checklist (Jones et al., 1997), and to again

arrange the species alphabetically within each genus. The intent of this arrangement is to facilitate use of the checklist and comparison with previous revisions of the checklist. As in previous revisions, non-native species are identified by an asterisk.

ORDER DIDELPHIMORPHIA – Opossums Family Didelphidae – Opossums

ORDER INSECTIVORA - Insectivores

Family Soricidae - Shrews Sorex arizonae Arizona Shrew Sorex bairdii Baird's Shrew Sorex cinereus or Masked Shrew Sorex dispar Long-tailed or Rock Shrew Sorex gaspensis Gaspé Shrew

Sorex ornatus	Ornate Shrew
Sorex pacificus	
Sorex palustris	
Sorex preblei	
Sorex pribilofensis	
Sorex sonomae	For Chroni
Sorex tenellus	Invo Chrow
Sorex trowbridgii	Translation 2- Channel
Sorex tundrensis	T I rowordge's Snrew
Sorex ugyunak	
Сорах уданая	Barren Ground Shrew
Sorex vagrans	vagrant Snrew
Sorex yukonicus	
Blarina brevicauda	
Blarina carolinensis	
Blarina hylophaga	
Cryptotis parva	
Notiosorex cockrumi	
Notiosorex crawfordi	Crawford's Desert Shrew
Family Talpidae – Moles	
Neurotrichus gibbsii	
Scapanus latimanus	
Scapanus orarius	
Scapanus townsendii	
Parascalops breweri	
Scalopus aquaticus	
Condylura cristata	Star-nosed Mole
Family Mormoopidae – Leaf-chinned Bats Mormoops megalophylla Family Phyllostomidae – New World Leaf-nosed Bats	Ghost-faced Bat
Macrotus californicus	California Loof nored Bat
Choeronycteris mexicana	
Leptonycteris curasoae	
Leptonycteris nivalis	
Diphylla ecaudata	
Family Vespertilionidae – Vesper Bats	Han y-regged vampire bar
Myotis auriculus	Southwestern Mustin
Myotis austroriparius	
Myotis californicus	
Myotis ciliolabrum	
Myotis evotis	
Myotis grisescens	
Myotis leibii	
Myotis lucifugus	
Myotis occultus	
Myotis septentrionalis	
Myotis sodalis	
Myotis thysanodes	
Myotis velifer	•
Myotis volans	
Myotis yumanensis	Yuma Myotis
Lasiurus blossevillii	247
7	
Lasiurus borealis	Eastern Red Bat
Lasiurus borealis Lasiurus cinereus Lasiurus ega	Eastern Red Bat Hoary Bat

Lasiurus seminolus	Lasiurus intermedius	
Lasionycteris noctivagans Silver-haired Bat Pipistrellus subflavus Eastern Pipistrelle Eptesicus fuscus Big Brown Bat Nycticotus humeralis Evening Bat Spotted Bat Euderma maculatum Spotted Bat Corymorhimus rafinesquii Rafinesque's Big-eared Bat Corymorhimus townsendii Townsend's Big-eared Bat Antirecous pallidus Pallid Bat Antirecous pallidus Pallid Bat Pallid Bat Pallid Bat Pallid Bat Pallid Bat Pallid Bat Nyctinomops macrotis Big Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops glaucimus Waspen's Bonneted Bat Eumops glaucimus Waspen's Bonneted Bat Eumops perotis Western Bonneted Bat Molossus molossus Waspen's Bonneted Bat Velvety Free-tailed Bat Molossus molossus Western Bonneted Bat Molossus molossus Western Bonneted Bat Weste		
Pipistrellus hesperus Western Pipistrelle Pipistrellus subflavus Eastern Pipistrelle Eptesicus fuscus Big Brown Bat Nycticetus humeratis Evening Bat Spotted Bat Corynorhinus rafinesquii Rafinesque's Big-eared Bat Corynorhinus rafinesquii Townsend's Big-eared Bat Allen's Big-cared Bat Corynorhinus townsendii Townsend's Big-eared Bat Allen's Big-cared		
Pipistrellus subidaus Esterius fipistrelle Eptesicus fisecus Big Brown Bat Nycticetus humeralis Evening Bat Euderma maculatum Spotted Bat Corymorhinus townsendti Townsend's Big-eared Bat Corymorhinus townsendti Townsend's Big-eared Bat Allen's Big-eared Bat Allen's Big-eared Bat Antrozous pallidus Pallidus Pallid Bats Family Molosidae - Free-tailed Bats Tadarida brastiliensis Brazilian Free-tailed Bat Nyctinomops femorosaccus Pocketed Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops glaucinus Wagner's Bonneted Bat Eumops perotis Western Bonneted Bat Eumops perotis Western Bonneted Bat Underwood's Bonneted Bat Holossus molossus Velvety Free-tailed Bat Velvety Free-tailed Bat Molossus molossus Velvety Free-tailed Bat Underwood's Bonneted Bat Underwood's Bonneted Bat Wagner's Macaca mulatia* Rhesus Macaca Macaca Rhesus Pygny Rabbit Sylvilagus aduations Sulvilagus aduations Sulvilagus Bachmani Brush Rabbit Sylvilagus bachmani Brush Rabbit Sylvilagus bachmani Brush Rabbit Sylvilagus aduations Brush Rabbit Desert Cottontail Sylvilagus parlustris Macaca Macaca Macaca Bata Appalachian Cottontail Sylvilagus parlustris Marsh Rabbit Lepus allustris Macaca Bata Rabbit Davis doeurus Sylvilagus parlustris Solvilagus parlustris Solvilagus Parlustris Solvilagus Parlustris Solvilagus Backarabit Lepus allustris Hare Arctic Hare Lepus acticus European Hare Lepus callotis White-sided		
Eptesicus fuscus Big Brown Bat Nycticetus humeralis Evening Bat Euderma maculatum Spotted Bat Corynorhinus rafinesqui Rafinesque's Big-eared Bat Corynorhinus romsendii Townsend's Big-eared Bat Altonyceris phyllotis Allen's Big-eared Bat Altonyceris phyllotis Allen's Big-eared Bat Altonyceris phyllotis Allen's Big-eared Bat Altonyceris phyllotis Pallid Bat Family Molossidae - Free-tailed Bats Family Molossidae - Free-tailed Bats Pallid Bat Practialed Bat Nyctinomops femorosaccus Pocketed Free-tailed Bat Nyctinomops femorosaccus Pocketed Free-tailed Bat Eumops glaucinus Wagner's Bonneted Bat Eumops perotis Western Bonneted Bat Eumops perotis Western Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Underwood's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Eumops underwoodi Resultation Res		
Myeticeius humeralis Evening Bat Euderma maculatum Spotted Bat Corynorhinus rafinesqui Rafinesqui Townsend's Big-eared Bat Corynorhinus townsendii Townsend's Big-eared Bat Idionycteris phylloits Allen's Big-eared Bat Allen's Bonneted Bat Eumops parotis Western Bonneted Bat Eumops parotis Western Bonneted Bat Eumops underwood's Underwood's Bonneted Bat Eumops underwood's Underwood's Bonneted Bat Allen's Batana Allen's Allen's Batana Allen's Batana Allen's Batana Allen's Batana Allen's Allen's Batana Allen's Batana Allen's Allen's Batana Allen's Batana Allen's Allen's Batana Allen's Big-eared Bat Allen's Batana Allen's Big-eared Bat Allen's Batana Allen's Big-eared Bat Allen's Batana Allen's Big-eared Batana Allen's Big-eared Batana Allen's		
Euderma maculatum Spotted Bat Corynorhinus rafinesquii Rafinesque's Big-eared Bat Corynorhinus formsendii Townsend's Big-eared Bat Altonycteris phyllotis Allen's Big-eared Bat Antrozous pallidus Pallid Bat Family Molossidae – Free-tailed Bats Tadarida brasiliensis Brazilian Free-tailed Bat Nyctinomops femorosaccus Pocketed Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops glaucinus Wagner's Bonneted Bat Eumops perotis Western Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Iapanese Macaque Family Horninidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Daysyns novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus Idahoensis Sylvilagus aquaticus Swamp Rabbit Sylvilagus aduationi Desert Cottontail Sylvilagus Induationii Brush Rabbit Sylvilagus pobscurus Appalachian Cottontail Sylvilagus potaturus Davisus Brash Rabbit Sylvilagus potaturus Appalachian Cottontail Sylvilagus potaturus Appalachian Cottontail Sylvilagus potaturus European Rabbit Lepus americanus Snowshoe Hare Lepus andericus Back-tailed Jackrabbit Lepus americanus Snowshoe Hare Lepus californicus Back-tailed Jackrabbit Lepus califors Lepus calif		
Corynorhinus townsendii Townsend's Big-eared Bat Corynorhinus townsendii Townsend's Big-eared Bat Idionycteris phyllotis Allen's Big-eared Bat Idionycteris phyllotis Allen's Big-eared Bat Antrozous pallidus Pallid Bat Pallid Bat Family Molossidae - Free-tailed Bats Tadarida brasiliensis Brazilian Free-tailed Bat Nyctinomops femorosaccus Pocketed Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops glaucinus Wagner's Bonneted Bat Eumops perotis Western Bonneted Bat Eumops underwood Underwood's Bonneted Bat Eumops underwood Underwood's Bonneted Bat Eumops underwood Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae - Old World Monkeys Macaca fuscata* Rhesus Macaque Family Hominidae - Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA - Armadiilos, Anteaters, and Sloths Family Dasypodidae - Armadiilos Dayspus novemcinctus Nime-banded Armadillo ORDER LAGOMORPHA - Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Cochotona collaris Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aduationii Desert Cottontail Sylvilagus nuttalii Mountain Cottontail Sylvilagus pobscurus Appalachian Cottontail Sylvilagus pobscurus Appalachian Cottontail Sylvilagus pobscurus Appalachian Cottontail Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Coryctolagus cuniculus* European Hare Lepus californicus Balack Hare European Hare	Nycticeius humeralis	Evening Bat
Corynorhinus townsendii Townsend's Big-eared Bat Idionycteris phyllotis Allen's Big-eared Bat Antrozous pallidus Pallid Bat Family Molossidae – Free-tailed Bats Tadarida brasiliensis Brazilian Free-tailed Bats Nyctinomops femorosaccus Pocketed Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Allen's Big Free-tailed Bat Eumops plancinus Wagner's Bonneted Bat Eumops perotis Western Bonneted Bat Eumops perotis Western Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Japanese Macaque Macaca mulatia* Rhesus Macaque Family Horninidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus audutonii Desert Cottontail Sylvilagus palustris Swamp Rabbit Sylvilagus publistris Mantali Mountain Cottontail Sylvilagus pobscurus Davis Mountains Cottontail Sylvilagus pobscurus Davis Mountains Cottontail Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Orycologus cuniculus* European Hare Lepus americanus Backalied Jackrabbit Lepus alloris White-eided Jackrabbit Lepus callotis White-eided Jackrabbit Lepus callotis White-eided Jackrabbit Lepus callotis White-eided Jackrabbit Lepus callotis Unice Callenter Davis Alaskan Hare		
Idionycteris phyllotis	Corynorhinus rafinesquii	Rafinesque's Big-eared Bat
Idionycteris phyllotis	Corynorhinus townsendii	Townsend's Big-eared Bat
Antrozous pallidus Paulidus Pallid Bats Family Molosidae – Free-tailed Bats Tadarida brastliensis Brazilian Free-tailed Bat Nyctinomops femorosaccus Pocketed Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops glaucinus Wagner's Bonneted Bat Eumops perotis Wastern Bonneted Bat Eumops molossus Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat Western Bonneted Bat Molossus molossus Velvety Free-tailed Bat Western Bonneted Bat Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae – Old World Monkeys Macaca fuscata* Japanese Macaque Rhesus Macaque Family Hominidae – Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA – Armadillos, Anteaters, and Sloths Family Dasypodidae – Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA – Pikas, Hares, and Rabbits Family Cehotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus bachmani Brush Rabbit Sylvilagus palustris Swamp Rabbit Sylvilagus palustris Brush Rabbit Sylvilagus palustris Mountain Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus palustris Marsh Rabbit Lepus alleni Antelops Jackrabbit Lepus callotis Lepus anericanus Lepus callotis Snowshoe Hare Lepus acticus Shous Alaskan Hare Lepus othus Malaskan Hare	Idionycteris phyllotis	Allen's Big-eared Bat
Family Molossidae — Free-tailed Bats Tadarida brasiliensis		
Nyctinomops femorosaccus Big Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops palaucinus Wagner's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Japanese Macaque Rhesus Macaque Family Hominidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus idahoensis Pythilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus adubonii Desert Cottontail Sylvilagus foridanus Eastern Cottontail Sylvilagus nuttalii Mountain Cottontail Sylvilagus puttaliii Mountain Cottontail Sylvilagus puttaliii Mountain Cottontail Sylvilagus puttaliii New England Cottontail Sylvilagus robustus Davis Mountains Cottontail Sylvilagus robustus Suniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus alleni Antelope Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis Suniculus Lepus and Suniculus Sun		
Nyctinomops femorosaccus Big Free-tailed Bat Nyctinomops macrotis Big Free-tailed Bat Eumops palaucinus Wagner's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Japanese Macaque Rhesus Macaque Family Hominidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus idahoensis Pythilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus adubonii Desert Cottontail Sylvilagus foridanus Eastern Cottontail Sylvilagus nuttalii Mountain Cottontail Sylvilagus puttaliii Mountain Cottontail Sylvilagus puttaliii Mountain Cottontail Sylvilagus puttaliii New England Cottontail Sylvilagus robustus Davis Mountains Cottontail Sylvilagus robustus Suniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus alleni Antelope Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis Suniculus Lepus and Suniculus Sun	Tadarida brasiliensis	Brazilian Free-tailed Bat
Nyctinomops macrotis Big Free-tailed Bat Eumops glaucinus Wagner's Bonneted Bat Eumops perotis Western Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Japanese Macaque Macaca mulatia* Rhesus Macaque Family Hominidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Cohotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus idahoensis Pywilagus aquaticus Sylvilagus aquaticus Sylvilagus aquaticus Brush Rabbit Sylvilagus floridanus Eastern Cottontail Sylvilagus palustris Mountain Cottontail Sylvilagus palustris Marsh Mountain Cottontail Sylvilagus palustris Marsh Rabbit Lepus alleni Antelope Jackrabbit Lepus alleni Antelope Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europeaus* European Hare Lepus and Lepus Callotis Lepus European Hare		
Eumops gelaucinus Western Bonneted Bat Eumops perotis Western Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae - Old World Monkeys Macaca fuscata* Japanese Macaque Macaca mulata* Rhesus Macaque Family Hominidae - Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA - Armadillos, Anteaters, and Sloths Family Dasypodidae - Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA - Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona erinceps American Pika Family Leporidae - Hares and Rabbits Family Leporidae - Hares and Rabbits Sylvilagus aquaticus Swamp Rabbit Sylvilagus adubonii Desert Cottontail Sylvilagus bachmani Brush Rabbit Sylvilagus bachmani Brush Rabbit Sylvilagus floridanus Eastern Cottontail Sylvilagus palustris Marsh Mountain Cottontail Sylvilagus palustris Marsh Mountain Cottontail Sylvilagus palustris Marsh Rabbit Lepus alleni Antelope Jackrabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callots White-sided Jackrabbit Lepus callots White-sided Jackrabbit Lepus callots White-sided Jackrabbit Lepus callots Lepus entered Scare Callon Callo		
Eumops perotis Western Bonneted Bat Eumops underwoodi Underwood's Bonneted Bat Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Japanese Macaque Family Hominidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Cochotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus adubonii Desert Cottontail Sylvilagus floridanus Eastern Cottontail Sylvilagus floridanus Eastern Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus palustris Davis Mountain Cottontail Sylvilagus robustus Davis Mountains Cottontail Oryctolagus cuniculus* European Rabbit Lepus americanus Snowshoe Hare Lepus californicus Black-tailed Jackrabbit Lepus californicus Black-tailed Jackrabbit Lepus cultotis White-sided Jackrabbit Lepus cultotis Hare Lepus colhus Alaskan Hare		
Eumops underwoodi Molossus molossus ORDER PRIMATES - Primates Family Cercopithecidae — Old World Monkeys Macaca fuscata* Macaca fuscata* Macaca mulatu* Family Hominidae — Great Apes and Humans Homo sapiens Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona princeps American Pika Family Leporidae — Hares and Rabbits Brachylagus idahoensis Sylvilagus aquaticus Sylvilagus aquaticus Sylvilagus aduabonii Desert Cottontail Sylvilagus horidanus Eastern Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus palustris Marsh Rabbit Sylvilagus palustris Marsh Rabbit Lepus alleni Lepus americanus Lepus californicus Black-tailed Jackrabbit Lepus californicus Black-tailed Jackrabbit Lepus californicus White-sided Jackrabbit Lepus callotis White-sided Jackrabbit White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit White-sided Jackrabbit White-sided Jackrabbit Lepus callotis White-sided Jackrabbit		
Molossus molossus Velvety Free-tailed Bat ORDER PRIMATES - Primates Family Cercopithecidae – Old World Monkeys Macaca fuscata* Japanese Macaque Macaca mulatta* Rhesus Macaque Family Hominidae – Great Apes and Humans Home sapiens Homo sapiens Modern Man ORDER XENARTHRA – Armadillos, Anteaters, and Sloths Family Dasypus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA – Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus apuaticus Swamp Rabbit Sylvilagus ploidanus Eastern Cottontail Sylvilagus ploidanus Eastern Cottontail Sylvilagus ploidanus Eastern Cottontail Sylvilagus plaustris Marsh Rabbit Sylvilagus plaustris Marsh Rabbit		
ORDER PRIMATES - Primates Family Cercopithecidae - Old World Monkeys Macaca fuscata* Macaca mulatta* Rhesus Macaque Family Hominidae - Great Apes and Humans Homo sapiens ORDER XENARTHRA - Armadillos, Anteaters, and Sloths Family Dasypodidae - Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA - Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae - Hares and Rabbits Brachylagus idahoensis Sylvilagus adudionii Sylvilagus adudionii Sylvilagus bachmani Sylvilagus hochmani Sylvilagus floridanus Sylvilagus nuttallii Mountain Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Sylvilagus robustus Sylvilagus ronuttalii Oryctolagus cuniculus* Lepus alleni Lepus areticus Arctic Hare Lepus californicus Lepus californicus Lepus cothus Alaskan Hare	Moloscus moloscus	Valuety Free toiled Dat
Family Cercopithecidae — Old World Monkeys **Macaca fuscata***********************************	1720-000M0 1710-1000M0	vervety Free-taned Bat
Macaca fuscata* Japanese Macaque Macaca mulatta* Rhesus Macaque Family Hominidae – Great Apes and Humans Modern Man ORDER XENARTHRA – Armadillos, Anteaters, and Sloths Family Dasypodidae – Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA – Pikas, Hares, and Rabbits Collared Pika Family Ochotonidae - Pikas Collared Pika Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus adudonii Desert Cottontail Sylvilagus adudonii Desert Cottontail Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttallii Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctologus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus	ORDER PRIMATES - Primates	
Macaca fuscata* Japanese Macaque Macaca mulatta* Rhesus Macaque Family Hominidae – Great Apes and Humans Modern Man ORDER XENARTHRA – Armadillos, Anteaters, and Sloths Family Dasypodidae – Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA – Pikas, Hares, and Rabbits Collared Pika Family Ochotonidae - Pikas Collared Pika Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus adudonii Desert Cottontail Sylvilagus adudonii Desert Cottontail Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttallii Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctologus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus	Family Cercopithecidae - Old World Monkeys	
### Family Hominidae — Great Apes and Humans #### Homo sapiens ### Modern Man ORDER XENARTHRA — Armadillos, Anteaters, and Sloths Family Dasypodidae — Armadillos ### Dasypodidae — Armadillos ### Dasypodidae — Armadillos ### Dasypos novemcinctus ### Nine-banded Armadillo ORDER LAGOMORPHA — Pikas, Hares, and Rabbits ### Family Ochotonidae - Pikas ### Ochotona collaris ### Collared Pika ### Ochotona collaris ### American Pika ### Family Leporidae — Hares and Rabbits ### Brachylagus idahoensis ### Pygmy Rabbit ### Sylvilagus aquaticus ### Swamp Rabbit *## Sylvilagus aquaticus ### Swamp Rabbit *## Sylvilagus audubonii ### Desert Cottontail *Sylvilagus audubonii ### Desert Cottontail **Sylvilagus floridanus ### Eastern Cottontail **Sylvilagus nuttallii ### Mountain Cottontail **Sylvilagus obscurus ### Appalachian Cottontail **Sylvilagus obscurus ### Davis Mountains Cottontail **Sylvilagus robustus ### Davis Mountains Cottontail **Sylvilagus transitionalis **New England Cottontail **New England Cottontail **Sylvilagus transitionalis **New England Cottontail **N	Macaca fuscata*	Japanese Macaque
Family Hominidae — Great Apes and Humans Homo sapiens	Macaca mulatta*	Rhesus Macaque
Homo sapiens Modern Man ORDER XENARTHRA – Armadillos, Anteaters, and Sloths Family Dasypodidae – Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA – Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Collared Pika Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus bachmani Brush Rabbit Sylvilagus bachmani Brush Rabbit Sylvilagus ploridanus Eastern Cottontail Sylvilagus nuttallii Mountain Cottontail Sylvilagus plaustris Marsh Rabbit Sylvilagus palustris New England Cottontail Sylvilagus robustus Davis Mountains Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
ORDER XENARTHRA – Armadillos Pamily Dasypodidae – Armadillos Dayspus novemcinctus Nine-banded Armadillo ORDER LAGOMORPHA – Pikas, Hares, and Rabbits Family Ochotonidae - Pikas Ochotona collaris Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Brachylagus idahoensis Brachylagus aquaticus Sylvilagus aquaticus Sylvilagus adubonii Desert Cottontail Sylvilagus bachmani Brush Rabbit Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttallii Mountain Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Oryctolagus cuniculus* Lepus alleni Lepus americanus Lepus arcticus Lepus arcticus Lepus acalifornicus Black-tailed Jackrabbit Lepus callotis Uentus Hare Lepus callotis White-sided Jackrabbit Lepus europaeus* Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis White-sided Jackrabbit Lepus callotis Uentus Lepus callotis Uentus Alaskan Hare		Modern Man
Family Ochotonidae - Pikas Ochotona collaris		Nine-banded Armadillo
Family Ochotonidae - Pikas Ochotona collaris		
Family Ochotonidae - Pikas Ochotona collaris	ORDER LAGOMORPHA - Pikas, Hares, and Rabbits	
Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus audubonii Desert Cottontail Sylvilagus bachmani Brush Rabbit Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttailii Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Oryctolagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Ochotona princeps American Pika Family Leporidae – Hares and Rabbits Brachylagus idahoensis Pygmy Rabbit Sylvilagus aquaticus Swamp Rabbit Sylvilagus audubonii Desert Cottontail Sylvilagus bachmani Brush Rabbit Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttailii Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Oryctolagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare	Ochotona collaris	Collared Pika
Family Leporidae — Hares and Rabbits Brachylagus idahoensis		
Brachylagus idahoensisPygmy RabbitSylvilagus aquaticusSwamp RabbitSylvilagus auduboniiDesert CottontailSylvilagus bachmaniBrush RabbitSylvilagus floridanusEastern CottontailSylvilagus nuttalliiMountain CottontailSylvilagus obscurusAppalachian CottontailSylvilagus palustrisMarsh RabbitSylvilagus robustusDavis Mountains CottontailSylvilagus transitionalisNew England CottontailOryctolagus cuniculus*European RabbitLepus alleniAntelope JackrabbitLepus americanusSnowshoe HareLepus arcticusArctic HareLepus californicusBlack-tailed JackrabbitLepus callotisWhite-sided JackrabbitLepus europaeus*European HareLepus othusAlaskan Hare		
Sylvilagus aquaticusSwamp RabbitSylvilagus auduboniiDesert CottontailSylvilagus bachmaniBrush RabbitSylvilagus floridanusEastern CottontailSylvilagus nuttalliiMountain CottontailSylvilagus obscurusAppalachian CottontailSylvilagus palustrisMarsh RabbitSylvilagus robustusDavis Mountains CottontailSylvilagus transitionalisNew England CottontailOryctolagus cuniculus*European RabbitLepus alleniAntelope JackrabbitLepus americanusSnowshoe HareLepus arcticusArctic HareLepus californicusBlack-tailed JackrabbitLepus callotisWhite-sided JackrabbitLepus europaeus*European HareLepus othusAlaskan Hare		Pyomy Rabbit
Sylvilagus auduboniiDesert CottontailSylvilagus bachmaniBrush RabbitSylvilagus floridanusEastern CottontailSylvilagus nuttalliiMountain CottontailSylvilagus obscurusAppalachian CottontailSylvilagus palustrisMarsh RabbitSylvilagus robustusDavis Mountains CottontailSylvilagus transitionalisNew England CottontailOryctolagus cuniculus*European RabbitLepus alleniAntelope JackrabbitLepus americanusSnowshoe HareLepus arcticusArctic HareLepus californicusBlack-tailed JackrabbitLepus callotisWhite-sided JackrabbitLepus europaeus*European HareLepus othusAlaskan Hare		
Sylvilagus bachmani Brush Rabbit Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttallii Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Sylvilagus floridanus Eastern Cottontail Sylvilagus nuttallit Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Sylvilagus nuttallii Mountain Cottontail Sylvilagus obscurus Appalachian Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Sylvilagus obscurus Appalachian Cottontail Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Sylvilagus palustris Marsh Rabbit Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Sylvilagus robustus Davis Mountains Cottontail Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Sylvilagus transitionalis New England Cottontail Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Oryctolagus cuniculus* European Rabbit Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare		
Lepus alleni Antelope Jackrabbit Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare	Sylvilagus robustus	Davis Mountains Cottontail
Lepus americanus Snowshoe Hare Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare	Sylvilagus robustus	Davis Mountains Cottontail New England Cottontail
Lepus arcticus Arctic Hare Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare	Sylvilagus robustus	
Lepus californicus Black-tailed Jackrabbit Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni	
Lepus callotis White-sided Jackrabbit Lepus europaeus* European Hare Lepus othus Alaskan Hare	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni Lepus americanus	Davis Mountains Cottontail New England Cottontail European Rabbit Antelope Jackrabbit Snowshoe Hare
Lepus europaeus* European Hare Lepus othus	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni Lepus americanus Lepus arcticus	Davis Mountains Cottontail New England Cottontail European Rabbit Antelope Jackrabbit Snowshoe Hare Arctic Hare
Lepus othus Alaskan Hare	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni Lepus americanus Lepus arcticus Lepus californicus	Davis Mountains Cottontail New England Cottontail European Rabbit Antelope Jackrabbit Snowshoe Hare Arctic Hare Black-tailed Jackrabbit
	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni Lepus americanus Lepus arcticus Lepus californicus Lepus callotis	Davis Mountains Cottontail New England Cottontail European Rabbit Antelope Jackrabbit Snowshoe Hare Arctic Hare Black-tailed Jackrabbit White-sided Jackrabbit
Lepus townsendii White-tailed Jackrabbit	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni Lepus americanus Lepus arcticus Lepus californicus Lepus callotis Lepus europaeus*	Davis Mountains Cottontail New England Cottontail European Rabbit Antelope Jackrabbit Snowshoe Hare Arctic Hare Black-tailed Jackrabbit White-sided Jackrabbit European Hare
	Sylvilagus robustus Sylvilagus transitionalis Oryctolagus cuniculus* Lepus alleni Lepus americanus Lepus arcticus Lepus californicus Lepus callotis Lepus europaeus* Lepus othus	Davis Mountains Cottontail New England Cottontail European Rabbit Antelope Jackrabbit Snowshoe Hare Arctic Hare Black-tailed Jackrabbit White-sided Jackrabbit European Hare Alaskan Hare

	-,
ORDER RODENTIA - Rodents	
Family Aplodontiidae – Mountain	
Aplodontia rufa	Sewellel or Mountain Beaver
Family Sciuridae - Squirrels	
Neotamias alpinus	
Neotamias amoenus	Yellow-pine Chipmunk
Neotamias canipes	Gray-footed Chipmunk
Neotamias cinereicollis	Gray-collared Chipmunk
Neotamias dorsalis	
Neotamias merriami	
Neotamias minimus	Least Chipmunk
Neotamias obscurus	
Neotamias ochrogenys .	Yellow-cheeked Chipmunk
Neotamias palmeri	Palmer's Chipmunk
Neotamias panamintinu	s Panamint Chipmunk
Neotamias quadrimacu	latus
Neotamias quadrivittati	s
Neotamias ruficaudus	Red-tailed Chipmunk
Neotamias rufus	Hopi Chipmunk
Neotamias senex	
Neotamias siskiyou	Siskiyou Chipmunk
Neotamias sonomae	Sonoma Chipmunk
Neotamias speciosus	Lodgepole Chipmunk
Neotamias townsendii	
Neotamias umbrinus	
Tamias striatus	Eastern Chipmunk
Marmota broweri	
	Hoary Marmot
Marmota flaviventris	Yellow-bellied Marmot
Marmota monax	
Marmota olympus	Olympic Marmot
Marmota vancouverens	is Vancouver Marmot
Ammospermophilus har	risii
Ammospermophilus inte	erpres Texas Antelope Squirrel
Ammospermophilus leus	curus
Ammospermophilus nels	soni
Spermophilus armatus .	
Spermophilus beecheyi .	
Spermophilus beldingi	Belding's Ground Squirrel
Spermophilus brunneus	
Spermophilus canus	
Spermophilus columbia	nus
Spermophilus elegans	Wyoming Ground Squirrel
Spermophilus franklinii	Franklin's Ground Squirrel
Spermophilus lateralis .	
Spermophilus mexicanu	s
Spermophilus mohaven	sis Mohave Ground Squirrel
Spermophilus mollis	
Spermophilus parryii	
Spermonhilus richardso	nii Richardson's Ground Squirrel
Spermonhilus saturatus	
Spermonhilus spilosome	JSpotted Ground Squirrel
Spermonhilus teretionud	hus
Spermophilus toursend	ii
Spermophilus tridesculi	ineatus
Spermophilus varianate	s Rock Squirrel
Spermophilus variegatu	oni Washington Ground Squirrel
spermophius wasningio	wasnington Ground Squirtel

	Cynomys gunnisoni	Commissed Project Des
	Cynomys leucurus	White toiled Proinic Dec
	Cynomys ludovicianus	Plack toiled Prairie Dog
	Cynomys parvidens	Litah Prairie Dog
	Sciurus aberti	Abart's Covieral
	Sciurus arizonensis	Arizona Gray Squirral
	Sciurus aureogaster*	Mexican Grov Squirel
	Sciurus carolinensis	Engloss Const Squine!
	Sciurus griseus	Western Gray Squirrel
	Sciurus nayaritensis	Maxican Fox Squimel
	Sciurus niger	Factors Fox Squired
	Tamiasciurus douglasii	Dougles's Sourcel
	Tamiasciurus hudsonicus	Ped Sourced
	Glaucomys sabrinus	Northern Flying Sovies
	Glaucomys volans	Southern Flying Squirrel
Family G	eomyidae - Pocket Gophers	Southern Flying Squitter
	Thomomys bottae	Potto's Poeles Coulou
	Thomomys bulbivorus	Comes Deslet Cont
	Thomomys clusius	Camas Pocket Gopher
	Thomomys idahoensis	Wyoming Pocket Gopher
	Thomomys mazama	Waster Darland Cont
	Thomomys monticola	Western Pocket Gopher
	Thomomys monticola	Mountain Pocket Gopher
	Thomomys townsond:	Northern Pocket Gopher
	Thomomys tumbring	Townsend's Pocket Gopher
	Thomomys umbrinus	Southern Pocket Gopher
	Geomys arthustori	Desert Pocket Gopher
	Geomys browings	Attwater's Pocket Gopher
	Geomys breviceps	Baird's Pocket Gopher
	Geomys bursarius	Plains Pocket Gopher
	Geomys knoxjonesi	Jones's Pocket Gopher
	Geomys personatus	Texas Pocket Gopher
	Geomys pinetis	Southeastern Pocket Gopher
	Geomys streckeri	Strecker's Pocket Gopher
	Geomys texensis	Llano Pocket Gopher
Enmily U	Cratogeomys castanops	Yellow-faced Pocket Gopher
railiniy ra	eteromyidae – Pocket Mice and Kangaroo Rats	
	Perognathus alticolus	
	Perognathus amplus	Arizona Pocket Mouse
	Perognathus fasciatus	Olive-backed Pocket Mouse
	Perognathus flavescens	Plains Pocket Mouse
	Perognathus flavus	Silky Pocket Mouse
	Perognathus inornatus	San Joaquin Pocket Mouse
	Perognathus longimembris	Little Pocket Mouse
	Perognathus merriami	Merriam's Pocket Mouse
	Perognathus parvus	Great Basin Pocket Mouse
	Chaetodipus baileyi	Bailey's Pocket Mouse
	Chaetodipus californicus	California Pocket Mouse
	Chaetodipus eremicus	
	Chaetodipus fallax	
	Chaetodipus formosus	Long-tailed Pocket Mouse
	Chaetodipus hispidus	Hispid Pocket Mouse
	Chaetodipus intermedius	
	Chaetodipus nelsoni	Nelson's Pocket Mouse
	Chaetodipus penicillatus	Sonoran Desert Pocket Mouse
	Chaetodipus rudinoris	Baja Pocket Mouse
	Chaetodipus spinatus	Spiny Pocket Mouse
		oping I ocher mouse
	Microdipodops megacephalus	Dark Kangaroo Mouse

	Dipodomys agilis	Agile Kangaron Rat
	Dipodomys californicus	California Kangaroo Rat
	Dipodomys compactus	
	Dipodomys deserti	
	Dipodomys elator	
	Dipodomys heermanni	
	Dipodomys ingens	
	Dipodomys merriami	
	Dipodomys microps	Chisel-toothed Kangaroo Rat
	Dipodomys nitratoides	
	Dipodomys ordii	
	Dipodomys panamintinus	
	Dipodomys simulans	
	Dipodomys spectabilis	
	Dipodomys stephensi	Stephen's Kangaroo Rat
	Dipodomys venustus	Narrow-faced Kangaroo Rat
	Liomys irroratus	Mexican Spiny Pocket Mouse
amily (Castoridae – Beavers	
	Castor canadensis	American Beaver
amily N	Muridae - Mice, Rats, and Voles	
•	Oryzomys couesi	Coues's Rice Rat
	Oryzomys palustris	
	Reithrodontomys fulvescens	
	Reithrodontomys humulis	
	Reithrodontomys megalotis	
	Reithrodontomys mortanus	
	Reithrodontomys raviventris	
	Peromyscus attwateri	
	Peromyscus boylii	
	Peromyscus californicus	
	Peromyscus crinitus	*
	Peromyscus eremicus	
	Peromyscus fraterculus	-
	Peromyscus gossypinus	Cotton Mouse
	Peromyscus gratus	
	Peromyscus keeni	. Keen's Mouse
	Peromyscus leucopus	. White-footed Mouse
	Peromyscus maniculatus	. Deer Mouse
	Peromyscus melanotis	Black-eared Mouse
	Peromyscus merriami	
	Peromyscus nasutus	
	Peromyscus pectoralis	
	Peromyscus polionotus	
	Peromyscus truei	
	Podomys floridanus	
	Ochrotomys nuttalli	
	Baiomys taylori	
	Onychomys arenicola	
	Onychomys leucogaster	
	Onychomys torridus	
	Sigmodon arizonae	
	Sigmodon fulviventer	
	Sigmodon hispidus	
	Sigmodon ochrognathus	
	Neotoma albigula	. Western White-throated Woodra
	Neotoma cinerea	
	Neotoma devia	
	Neotoma floridana	

	Neotoma fuscipes	Dusky-footed Woodrat
	Neotoma lepida	Desert Woodrat
	Neotoma leucodon	Eastern White-throated Woodrat
	Neotoma macrotis	Large-eared Woodrat
	Neotoma magister	Appalachian Woodrat
	Neotoma mexicana	Mexican Woodrat
	Neotoma micropus	Southern Plains Woodrat
	Neotoma stephensi	Stephens's Woodrat
	Rattus norvegicus*	Norway or Brown Rat
	Rattus rattus*	Black or House Rat
	Mus musculus*	House Mouse
	Clethrionomys californicus	Western Red-backed Vole
	Clethrionomys gapperi	Southern Red-backed Vole
	Clethrionomys rutilus	Northern Red-backed Vole
	Arborimus albipes	White-footed Vole
	Arborimus longicaudus	Red Tree Vole
	Arborimus pomo	Sonoma Tree Vole
	Phenacomys intermedius	Western Heather Vole
	Phenacomys ungava	Eastern Heather Vole
	Microtus abbreviatus	Insular Vote
	Microtus breweri	Reach Vola
	Microtus californicus	California Vala
	Microtus canicaudus	Grav toiled Vale
	Microtus chrotorrhinus	Pools Vole
	Microtus langicandus	Long to 3 and 3 an
	Microtus longicaudus	Long-tailed Vole
	Microtus mogollonensis	Mogolion Vole
	Microtus miurus	
	Microtus montanus	
	Microtus ochrogaster	Prairie Vole
	Microtus oeconomus	
	Microtus oregoni	
	Microtus pennsylvanicus	
	Microtus pinetorum	Woodland Vole
	Microtus richardsoni	
	Microtus townsendii	
	Microtus xanthognathus	Yellow-cheeked or Taiga Vole
	Lemmiscus curtatus	
	Neofiber alleni	Round-tailed Muskrat
	Ondatra zibethicus	
	Lemmus trimucronatus	
	Synaptomys borealis	Northern Bog Lemming
	Synaptomys cooperi	Southern Bog Lemming
	Dicrostonyx exsul	St. Lawrence Island Collared Lemming
	Dicrostonyx groenlandicus	Peary Land Collared Lemming
	Dicrostonyx hudsonius	Labrador Collared Lemming
	Dicrostonyx kilangmiutak	Victoria Collared Lemming
	Dicrostonyx nelsoni	
	Dicrostonyx nunatakensis	Ogilvie Mountain Collared Lemming
	Dicrostonyx richardsoni	
	Dicrostonyx rubricatus	Bering Collared Lemming
	Dicrostonyx unalascensis	
Famil	y Zapodidae – Jumping Mice	Online Solition Dollars
	Zapus hudsonius	Meadow Jumping Mouse
	Zapus princeps	
	Zapus trinotatus	
	Napaeozapus insignis	
Famil	y Erethizontidae – New World Porcupines	woodiand Jumping Mouse
- aumi	Erethizon dorsatum	Mosth Associate Des
	LA EIRIZON GOFSGIAM	North American Porcupine

Family Myocastoridae – Coypus	
Myocastor coypus*	Nutria or Coypu
ORDER CARNIVORA – Carnivores	
Family Canidae – Dogs, Foxes, and Wolves	
Canis familiaris*	Feral Dog
Canis latrans	
Canis lupus	
Canis lycaon	
Canis rufus	
Vulpes lagopus	
Vulpes macrotis	
Vulpes velox	
Vulpes vulpes	
Urocyon cinereoargenteus	Common Gray Fox
Urocyon littoralis	Island Gray Fox
Family Ursidae – Bears	
Ursus americanus	American Black Bear
Ursus arctos	
Ursus maritimus	Polar Bear
Family Otariidae – Eared Seals	
Callorhinus ursinus	
Arctocephalus townsendi	
Eumetopias jubatus	
Zalophus californianus	California Sea-Lion
Family Odobenidae – Walrus	
Odobenus rosmarus	Walrus
Family Phocidae - Earless, True, or Hair Seals	
Phoca largha	
Phoca vitulina	
Pusa hispida	
Halichoerus grypus	
Pagophilus groenlandicus	
Histriophoca fasciata	
Erignathus barbatus	
Cystophora cristata	
Monachus tropicalis	
Mirounga angustirostris	Northern Elephant Seal
Family Procyonidae – Raccoons, Ringtails, and Coatis	
Bassariscus astutus	Ringtail
Procyon lotor	
Nasua narica	White-nosed Coati
Family Mustelidae - Weasels, Otters, and Badgers	
Martes americana	American Marten
Martes pennanti	Fisher
Mustela erminea	
Mustela frenata	Long-tailed Weasel
Mustela nigripes	
Mustela nivalis	Least Weasel
Mustela putorius*	European Ferret
Mustela vison	American Mink
Gulo gulo	Wolverine
Taxidea taxus	American Badger
Lontra canadensis	
Enhydra lutris	
Family Mephitidae - Skunks	
	Wastorn Cnotted Claumle
Spilogale gracilis	Western Spotted Skutik

Mephitis macroura	Hooded Skunk
Mephitis mephitis	Strined Skunk
Conepatus leuconotus	White heeked User need Claude
Family Felidae Cats	
Felis catus*	
Puma concolor	Mountain Lion or Puma
Leopardus pardalis	Ocelot
Leopardus wiedii	Margay
Herpailurus yaguarondi	Jaguarundi
Lynx canadensis	Canada Lynx
Lynx rufus	Bobcat
Panthera onca	Jaguar
ORDER CETACEA – Whales	
Family Eschrichtiidae - Gray Whale	
Eschrichtius robustus	Grav Whale
Family Balaenopteridae – Rorquals	Tribute
Balaenoptera acutorostrata	Northern Minke Whole
Balaenoptera borealis	
Balaenoptera brydei	
Balaenoptera musculus	Rine Whole
Balaenoptera physalus	Fin Whole
Megaptera novaeangliae	Humphark Whale
Family Balaenidae – Right Whales	Humpoack whale
Eubalaena glacialis	Dight Whole
Balaena mysticetus	
Family Monodontidae – Beluga and Narwhal	Downead whale
Delphinapterus leucas	White Whele or Deluge
Monodon monoceros	Namuhal
Family Delphinidae – Dolphins	
Steno bredanensis	Rough-toothed Dolphin
Tursiops truncatus	Rottlerose Dolphin
Stenella attenuata	
Stenella clymene	
Stenella coeruleoalba	Stringd Dolphin
Stenella frontalis	
Stenella longirostris	
Delphinus capensis	
Delphinus delphis	
Lagenodelphis hosei	
Lagenorhynchus acutus	
Lagenorhynchus albirostris	
Lagenorhynchus obliquidens	Pacific White-eided Dolphin
Grampus griseus	
Peponocephala electra	
Feresa attenuata	
Pseudorca crassidens	
Globicephala macrorhynchus	
Globicephala melas	
Orcinus orca	
Lissodelphis borealis	
Family Phocoenidae – Porpoises	Normen Right-whate Dolphin
Phocoena phocoena	Harbor Parraisa
Phocoenoides dalli	Dail's Porpoise
Family Ziphiidae – Beaked Whales Berardius bairdii	North DociGo Datel
Ziphius cavirostris	Goose-beak Whale

Hyperoodon ampullatus	North Atlantic Bottlenose Whale
Mesoplodon bidens	Sowerby's Beaked Whale
Mesoplodon carlhubbsi	
Mesoplodon densirostris	
Mesoplodon europaeus	
Mesoplodon ginkgodens	
Mesoplodon mirus	
Mesoplodon perrini	
Mesoplodon stejnegeri	
Family Kogiidae – Pygmy Sperm Whales	Stejneger's Beaked whate
	D C 33711-
Kogia breviceps	
Kogia sima	Dwart Sperm Whale
Family Physeteridae – Sperm Whales	
Physeter macrocephalus	Sperm Whale
ORDER SIRENIA – Sea Cows	
Family Trichechidae - Manatees	
Trichechus manatus	West Indian or Caribbean Manatee
	Trest indian of Carobean Manage
ORDER PERISSODACTYLA - Odd-toed Ungulates	
Family Equidae – Horses and Asses	
Equus asinus*	Feral Ass
Equus caballus*	
24 w culture and a second a second and a second a second and a second a second and a second and a second and	Telai Hoise
ORDER ARTIODACTYLA - Even-toed Unguiates	
Family Suidae – Pigs	
Sus scrofa*	Feral Pig or Wild Boar
Family Tayassuidae – Peccaries	. I of all tig of this boar
Pecari tajacu	Collared Peccary
Family Cervidae – Deer	. Contained rectally
Axis axis*	Avia Deau
Dama dama*	
Cervus canadensis	
Cervus nippon*	
Cervus unicolor*	
Odocoileus hemionus	
Odocoileus virginianus	. White-tailed Deer
Alces alces	. Moose
Rangifer tarandus	. Caribou
Family Antilocapridae – Pronghorn	
Antilocapra americana	. Pronghorn
Family Bovidae - Cattle, Antelope, Sheep, and Goats	
Bos bison	. American Bison
Bos taurus*	
Boselaphus tragocamelus*	
Oryx gazella*	
Antilope cervicapra*	
Hemitragus jemlahicus*	
Capra hircus*	
Capra ibex*	
Oreamnos americanus	
Ovibos moschatus	
Ovis aries*	
Ovis canadensis	
Ovis dalli	
Ammotragus lervia*	Barbary Sheep or Aoudad

ACKNOWLEDGMENTS

The authors thank Robert C. Dowler and Frederick B. Stangl, Jr., for their timely and valuable reviews of this manuscript, and Jackie Chavez for her patience and dedication to producing a quality prod-

uct. We would like to thank Tanya E. Dewey and Sarah E. Weyandt for use of their unpublished materials. This publication was supported in part by Texas Tech University for studies of biodiversity.

LITERATURE CITED

- Alexander, L. F. 1996. A morphometric analysis of geographic variation within Sorex monticolus (Insectivora: Soricidae). University of Kansas Publication, Museum of Natural History, 88:1-54.
- Arbogast, B. S. 1999. Mitochondrial DNA phylogeography of the New World flying squirrels (*Glaucomys*): implications for Pleistocene biogeography. Journal of Mammalogy, 80:142-155.
- Arbogast, B. S., R. A. Browne, and P. D. Weigl. 2001. Evolutionary genetics and Pleistocene biogeography of North American tree squirrels (*Tamiasciurus*). Journal of Mammalogy, 82:302-319.
- Avise, J. C., and D. Walker. 1999. Species realities and numbers in sexual vertebrates: perspectives from an asexually transmitted genome. Proceeding of the National Academy of Sciences of the USA, 96:992-995.
- Baker, R. J., M. B. O'Neill, and L. R. McAliley. 2003. A new species of desert shrew, *Notiosorex*, based on nuclear and mitochondrial sequence data. Occasional Papers, The Museum of Texas Tech University, 222:1-12.
- Baker, R. J., J. C. Patton, H. H. Genoways, and J. W. Bickham. 1988. Genic studies of Lasiurus (Chiroptera: Vespertilionidae). Occasional Papers, The Museum of Texas Tech University, 117:1-15.
- Baker, R. J. 2002. Editor's comment, P. i, in A new Central American species from the Carollia brevicauda complex (R. J. Baker, S. Solari, and F. G. Hoffmann, authors). Occasional Papers, The Museum of Texas Tech University, 217:1-11.
- Barron, G. L., and T. A. Jefferson. 1993. First records of the melon-headed whale (*Peponocephala electra*) from the Gulf of Mexico. Southwestern Naturalist, 38:82-85.

- Batzli, G. O. 1999. Brown lemming, *Lemmus sibiricus*. Pp. 653-654, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Best, T. L., R. K. Chesser, D. A. McCullough, and G. D. Baumgardner. 1996. Genic and morphometric variation in kangaroo rats, genus *Dipodomys*, from coastal California. Journal of Mammalogy, 77:785-800.
- Best, T. L. 1999. Narrow-faced kangaroo rat, *Dipodomys venustus*. Pp. 545-546, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Bogdanowicz, W., S. Kasper, and R. D. Owen. 1998. Phylogeny of plecotine bats: reevaluation of morphological and chromosomal data. Journal of Mammalogy, 79:78-90.
- Bradley, R. D., and R. J. Baker. 2001. A test of the Genetic Species Concept: cytochrome-b sequences and mammals. Journal of Mammalogy, 82:960-973.
- Brunet, A. K., R. M. Zink, K. M. Kramer, R. C. Blackwell-Rago, S. L. Farrell, T. V. Line, and E. C. Birney. 2002. Evidence of introgression between masked shrews (*Sorex cinereus*), and prairie shrews (*S. haydeni*), in Minnesota. American Midland Naturalist, 147:116-122.
- Carraway, L. N. 1995. A key to Recent Soricidae of the western United States and Canada based primarily on dentaries. Occasional Papers of the Natural History Museum, University of Kansas, 175:1-49.
- Clapham, P. 1999. Family Balaenidae. P. 241, in The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.

- Dalebout, M. L., J. G. Mead, C. S. Baker, A. N. Baker, and A. L. van Helden. 2002. A new species of beaked whale *Mesoplodon perrini* sp. n. (Cetacea: Ziphiidae) discovered through phylogenetic analyses of mitochondrial DNA sequences. Marine Mammal Science, 18:577-608.
- Demboski, J. R., and J. A. Cook. 2003. Phylogenetic diversification within the *Sorex cinereus* group (Soricidae). Journal of Mammalogy, 84:144-158.
- Dizon, A., C. A. Lux, R. G. LeDuc, J. Urban R., M. Henshaw, and R. Brownell, Jr. 1996. An interim phylogenetic analysis of sei and Bryde's whales mitochondrial DNA control region sequences. Report of the International Whaling Commission, 46:669.
- Dizon, A., C. A. Lux, R. G. LeDuc, J. Urban R., M. Henshaw, C. S. Baker, F. Cipriano, and R. Brownell, Jr. 1998. Molecular phylogeny of the Bryde's whale/sei whale complex: Separate species status for the pygmy Bryde's form? Report of the International Whaling Commission, 47:398.
- Dobzhansky, T. 1950. Mendelian populations and their evolution. American Naturalist, 74:312-321.
- Dokuchaev, N. E. 1997. A new species of shrew (Soricidae, Insectivora) from Alaska. Journal of Mammalogy, 78:811-817.
- Dragoo, J. W., R. L. Honeycutt, and D. J. Schmidly. 2003.

 Taxonomic status of white-backed hog-nosed skunks, genus Conepatus (Carnivora: Mephitidae). Journal of Mammalogy, 84:159-176.
- Dragoo, J. W., and R. K. Wayne. 2003. Systematics and population genetics of swift and kit foxes. Pp. 207-222, in The swift fox: ecology and conservation of swift foxes in a changing world (M. A. Sovada and L. Carbyn, eds.), Canadian Plains Research Center, University of Regina, Regina, Saskatchewan.
- Edwards, C. W., C. F. Fulhorst, and R. D. Bradley. 2001. Molecular phylogenetics of the *Neotoma albigula* species group: further evidence of a paraphyletic assemblage. Journal of Mammalogy, 82:267-279.
- Engstrom, M. D. 1999. Collared lemmings, *Dicrostonyx*. Pp. 658-659, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Frank, P. A. 1997. First record of *Molossus molossus* tropidorhynchus Gray (1839) from the United States. Journal of Mammalogy, 78:103-105.

- Frey, J. K. 1999. Mogollon vole, *Microtus mogollonesis*. Pp. 634-635, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Frey, J. K., and D. W. Moore. 1990. Nongeographic variation in the Mexican vole (*Microtus mexicanus*). Transactions of the Kansas Academy of Science, 93:97-109.
- Frost, D. R., and R. M. Timm. 1992. Phylogeny of plecotine bats (Chiroptera: Vespertilionidae): summary of the evidence and proposal of a logically consistent taxonomy. American Museum Novitates, 3034:1016.
- Geffen, E., A. Mercure, D. J. Girman, D. W. Macdonald, and R. K. Wayne. 1992. Phylogenetic relationships of the fox-like canids. Journal of Zoology, 228:27-39.
- Geist, V. 1998. Deer of the world: their evolution, behavior, and ecology. Stackpole Books, Mechanicsburg, Pennsylvania. 421 pp.
- George, S. B. 1988. Systematics, historical biogeography, and evolution of the genus *Sorex*. Journal of Mammalogy, 78:103-105.
- George, S. B. 1999. Montane shrew, *Sorex monticolus*. Pp. 31-33, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Halanych, K. M., J. R. Demboski, B. J. van Vuuren, D. R. Klein, and J. A. Cook. 1999. Cytochrome b phylogeny of North American hares and jackrabbits (*Lepus*, Lagomorpha) and the effects of saturation in outgroup taxa. Molecular Phylogeny and Evolution, 11:213-221.
- Harris, A. H. 1999. Water shrew, Sorex palustris. Pp. 38-39, in The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Hoffmann, R. S. 1999. Pribilof Island shrew, *Sorex hydrodromus*. Pp. 27-28, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Hogan, K. M., S. K. Davis, and I. F. Greenbaum. 1997. Mitochondrial-DNA analysis of the systematic relationships within the *Peromyscus maniculatus* species group. Journal of Mammalogy, 78:733-743.

- Hoofer, S. R., and R. A. Van Den Bussche. 2001. Phylogenetic relationships of plecotine bats and allies based on mitochondrial ribosomal sequences. Journal of Mammalogy, 82:131-137.
- Hutterer, R. 1993. Order Insectivora. Pp. 69-130, in Mammal species of the world: a taxonomic and geographic reference (D. E. Wilson and D. M. Reeder, eds.), Smithsonian Institution Press, Washington, D.C., xviii + 1206 pp.
- Jameson, E. W., Jr. 1999. Host-ectoparasite relationships among North American chipmunks. Acta Theriologica, 44:225-231.
- Jarrell, G. H., and K. Fredga. 1993. How many kinds of lemmings? A taxonomic overview. Pp. 45-57, in The biology of the lemmings (N. C. Stenseth and R. A. Ims, eds.), Linnean Society Symposium Series, no. 15, Academic Press, London, 683 pp.
- Jolley, T. W., R. L. Honeycutt, and R. D. Bradley. 2000. Phylogenetic relationships of pocket gophers (genus *Geomys*) based on the mitochondrial 12S rRNA gene. Journal of Mammalogy, 81:1025-1034.
- Jones, C., R. S. Hoffmann, D. W. Rice, M. D. Engstrom, R. D. Bradley, D. J. Schmidly, C. A. Jones, and R. J. Baker. 1997. Revised checklist of North American mammals north of Mexico, 1997. Occasional Papers, The Museum of Texas Tech University, 173:1-19.
- Jones, J, K., Jr., D. C. Carter, and H. H. Genoways. 1973. Checklist of North American mammals north of Mexico. Occasional Papers, The Museum of Texas Tech University, 12:1-14.
- Jones, J, K., Jr., D. C. Carter, and H. H. Genoways. 1975. Revised checklist of North American mammals north of Mexico. Occasional Papers, The Museum of Texas Tech University, 28:1-14.
- Jones, J, K., Jr., D. C. Carter, and H. H. Genoways. 1979. Revised checklist of North American mammals north of Mexico, 1979. Occasional Papers, The Museum of Texas Tech University, 62:1-17.
- Jones, J, K., Jr., D. C. Carter, H. H. Genoways, R. S. Hoffmann, and D. W. Rice. 1982. Revised checklist of North American mammals north of Mexico, 1982. Occasional Papers, The Museum of Texas Tech University, 80:1-22.
- Jones, J, K., Jr., D. C. Carter, H. H. Genoways, R. S. Hoffmann, D. W. Rice, and C. Jones. 1986. Checklist of North American mammals north of Mexico, 1986. Occasional Papers, The Museum of Texas Tech University, 107:1-22.

- Jones, J, K., Jr., R. S. Hoffmann, D. W. Rice, C. Jones, R. J. Baker, and M. D. Engstrom. 1992. Revised checklist of North American mammals north of Mexico, 1991. Occasional Papers, The Museum of Texas Tech University, 146:1-23.
- Kurta, A. 1999. Southern yellow bat, *Lasiurus ega*. Pp. 107-109, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- LeDuc, R. G., W. F. Perrin, and A. E. Dizon. 1999. Phylogenetic relationships among the delphinoid cetaceans based on full cytochrome b sequences.

 Marine Mammal Science, 15:619-648.
- Lee, T. E., Jr., B. R. Riddle, and P. L. Lee. 1996. Speciation in the desert pocket mouse (*Chaetodipus penicillatus* Woodhouse). Journal of Mammalogy, 77:58-68.
- Matocq, M. D. 2002. Morphological and molecular analysis of a contact zone in the *Neotoma fuscipes* species complex. Journal of Mammalogy, 83:866-883.
- Mayden, R. L. 1997. A hierarchy of species concepts: the denouement in the saga of the species problem. Pp. 381-424, in Species: the units of biodiversity. (M. F. Claridge, H. A. Dawah, and M. R. Wilson, eds.). Chapman and Hall, New York.
- Mayr, E. 1969. Principles of systematic zoology. McGraw-Hill, New York.
- Mercure, A., K. Ralls, K. P. Koepfli, and R. K. Wayne. 1993. Genetic subdivisions among small canids: mitochondrial DNA differentiation of swift, kit, and arctic foxes. Evolution, 47:1313-1328.
- Patton, J. L., and S. T. Alvarez-Castañeda. In press. Phylogeography of the desert woodrat, Neotoma lepida, with comments on systematics and biogeographic history. Pp. xx-xx, in Contribuciones mastozoologicas en honor de Bernardo Villa (V. Sánchez-Cordero and R. Medellín, eds.), Instituto de Biología, Universidad Nacional Autónoma de México, Mexico, D. F.
- Perrin, W. F., B. Würsig, and J. G. S. Thewissen, (eds.). 2002. Encyclopedia of marine mammals. Academic Press, San Diego, 1414 pp.
- Piaggio, A. J., and G. S. Spicer. 2001. Molecular phylogeny of the chipmunks inferred from mitochondrial cytochrome b and cytochrome oxidase II gene sequences. Molecular Phylogeny and Evolution, 20:335-350.

- Piaggio, A. J., E. W. Valdez, M. A. Bogan, and G. S. Spicer. 2002. Systematics of Myotis occultus (Chiroptera: Vespertilionidae) inferred from sequences of two mitochondrial genes. Journal of Mammalogy, 83:386-395.
- Price, M. V. 1999. Desert pocket mouse, *Chaetodipus penicillatus*. Pp. 516-517, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Randi, E., N. Mucci, F. Claro-Hergueta, A. Bonnet, and E. J. P. Douzery. 2001. A mitochondrial DNA control region phylogeny for the Cervinae: speciation in *Cervus* and its implications for conservation. Animal Conservation, 4:1-11.
- Rausch, R. L., and V. R. Rausch. 1995. The taxonomic status of the shrew of St. Lawrence Island, Bering Sea (Mammalia: Soricidae). Proceedings of the Biological Society of Washington, 108:717-728.
- Rausch, R. L, and V. R. Rausch. 1997. Evidence for specific independence of the shrew (Mammalia: Soricidae) of St. Paul Island (Pribilof Islands, Bering Sea). Zeitschrift fur Saugetierkunde, 62:193-202.
- Rice, D. W. 1998. Marine mammals of the world: systematics and distribution. Society of Marine Mammalogy, Special Publication, 4:1-231.
- Rice, D. W. 1999. Bryde's whale, *Balaenoptera edeni*. Pp. 249-251, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Riddle, B. R., D. J. Hafner, and L. F. Alexander. 2000a.

 Comparative phylogeography of Baileys' Pocket
 Mouse (Chaetodipus baileyi) and the
 Peromyscus eremicus species group: historical
 vicariance of the Baja California Peninsular Desert.
 Molecular Phylogeny and Evolution, 17:161-172.
- Riddle, B. R., D. J. Hafner, and L. F. Alexander. 2000b. Phylogeography and systematics of the *Peromyscus eremicus* species group and the historical biogeography of North American warm regional deserts. Molecular Phylogeny and Evolution, 17:145-160.

- Rosenbaum, H. C., R. L. Brownwell, Jr., M. W. Brown, C. Schaeff, V. Portway, B. N. White, S. Malik, L. A. Pastene, N. J. Patenaude, C. S. Baker, M. Goto, P. B. Best, P. J. Clapham, P. Hamilton, M. Moore, R. Payne, V. Rowntree, C. T. Tynan, J. L. Bannister, and R. DeSalle. 2000. World-wide genetic differentiation of *Eubalaena*: questioning the number of right whale species. Molecular Ecology, 9:1793-1802.
- Ruedas, L. A. 1998. Systematics of Sylvilagus Gray, 1867 (Lagomorpha: Leporidae) from southwestern North America. Journal of Mammalogy, 79:1355-1378.
- Shaw, J. H. 1999. American bison, *Bison bison*. Pp. 342-343, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Shump, K. A. 1999. Red bat, Lasiurus borealis. Pp. 105-106, in The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Simpson, G. G. 1943. Criteria for genera, species, and subspecies in zoology and paleontology. Annals of the New York Academy of Science, 44:145-178.
- Stewart, D. T., N. D. Perry, and L. Fumagalli. 2002. The maritime shrew, *Sorex maritimensis* (Insectivora: Soricidae): a newly recognized Canadian endemic. Canadian Journal of Zoology, 80:94-99.
- Thacker, R. K., and J. T. Flinders. 1999. Kit or swift fox, *Vulpes velox*. Pp. 148-150, *in* The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.
- Tumlison, R., and M. E. Douglas. 1992. Parsimony analysis and the phylogeny of the plecotine bats (Chiroptera: Vespertilionidae). Journal of Mammalogy, 73:276-285.
- van Zyll de Jong, C. G. 1991. Speciation in the *Sorex* cinereus group. Pp. 65-73, in The biology of the Soricidae (J. S. Findley and T. L. Yates, eds.), Museum of Southwestern Biology, Albuquerque, New Mexico.
- van Zyll de Jong, C. G. 1999. Cinereus shrew, Sorex cinereus. Pp. 20-21, in The Smithsonian book of North American mammals (D. E. Wilson and S. Ruff, eds.), Smithsonian Institution Press, Washington, D.C., xxv + 750 pp.

- Wada, S., and K. Numachi. 1991. Allozyme analyses of genetic differentiation among the populations and species of *Balaenoptera*. Report of the International Whaling Commission, (Special Issue 13):125-154.
- Wilson, D. E., and F. R. Cole. 2000. Common names of mammals of the world. Smithsonian Institution Press, Washington, D. C., xiv + 204 pp.
- Wilson, D. E., and D. M. Reeder (eds.). 1993. Mammal species of the world: a taxonomic and geographic reference. Smithsonian Institution Press, Washington, D.C., xviii + 1206 pp.
- Wilson, D. E., and S. Ruff (eds.). 1999. The Smithsonian book of North American mammals. Smithsonian Institution Press, Washington, D. C., xxv + 750 pp.
- Wilson, P. J., S. Grewal, I. D. Lawford, J. N. M. Heal, A. G. Granacki, D. Pennock, J. B. Theberge, M. T. Theberge, D. R. Voigt, W. Waddell, R. E. Chambers, P. C. Paquet, G. Goulet, D. Cluff, and B. N. White. 2000. DNA profiles of the eastern Canadian wolf and the red wolf provide evidence for a common evolutionary history independent of the gray wolf. Canadian Journal of Zoology, 78:2156-2166.
- Wilson, P. J., S. Grewal, T. McFadden, R. C. Chambers, and B. N. White. 2003. Mitochondrial DNA extracted from North American wolves killed in the 1800s is not of gray wolf origin. Canadian Journal of Zoology, 81:936-940.
- Wozencraft, W. C. 1993. Order Carnivora. Pp. 279-348, in Mammal species of the world: a taxonomic and geographic reference (D. E. Wilson and D. M. Reeder, eds.), Smithsonian Institution Press, Washington, D.C., xviii + 1206 pp.

Addresses of authors:

ROBERT J. BAKER

Department of Biological Sciences
Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3131
e-mail: rjbaker@ttu.edu

LISA C. BRADLEY

Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3191
e-mail: lisa.bradley@ttu.edu

ROBERT D. BRADLEY

Department of Biological Sciences
Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3131
e-mail: robert.bradley@ttu.edu

JERRY W. DRAGOO

Museum of Southwestern Biology University of New Mexico Albuquerque, NM 87131-1091 e-mail: jdragoo@unm.edu

MARK D. ENGSTROM

Royal Ontario Museum 100 Queen's Park Toronto, Ontario M5S 2C6 CANADA e-mail: marke@rom.on.ca

ROBERT S. HOFFMANN

Smithsonian Institution
P.O. Box 37012
Div. Mamm., Natl. Mus. Nat. Hist. MRC108
Washington, D.C. 20013-7012
e-mail: hoffmann.robert@nmnh.si.edu

CHERI A. JONES

Department of Zoology
Denver Museum of Natural History
2001 Colorado Blvd.
Denver, CO 80205
e-mail: cjones@dmns.org

FIONA REID

CBCB, Royal Ontario Museum 100 Queen's Park Toronto, Ontario M5S 2C6 CANADA e-mail: fionar@globalserve.net

DALE W. RICE

14334 Edgewater Lane Seattle WA 98125-3844 e-mail: dale.rice@noaa.gov

CLYDE JONES

Department of Biological Sciences
Museum of Texas Tech University
Texas Tech University
Lubbock, TX 79409-3131
e-mail: cjmajones@aol.com